

## Notes from the CEO

By John Krist

A year ago, Farm Bureau and its partners launched the Agricultural Water Use Efficiency Program, funded with \$1.7 million in Proposition 84 bond funds allocated by the Department of Water Resources. It was one of several Ventura

County projects selected for funding through the competitive Integrated Regional Water Management Grant program.

The grant provides about \$1.2 million in matching funds to help growers purchase and install such things as irrigation timers, meters, sprinklers, soil-moisture sensors, drip tape and emitters, irrigation-management software and high-efficiency pumps. Growers who apply and are selected for eligibility will

be reimbursed for 60 percent of the cost.

It took a few months after the state approved the grant to get the program rolling. Farm Bureau is managing the program, but the County of Ventura is actually the grant recipient, so we had to work together to develop the necessary internal tracking systems and procedures, application process and eligibility criteria. We also had to establish agreements with the Ventura County Resource Conservation District, University of California and the U.S. Department of Agriculture's Natural Resources Conservation Service to provide the necessary technical services, including pre- and post-installation irrigation efficiency evaluations. We formally launched the program with a well-attended public workshop on Sept. 27.

Nearly a year later, the program is in full swing. According to the latest progress report to the state prepared by my water policy specialist, Nancy Broschart (to whom I've assigned responsibility for overseeing the program implementation), 59 growers submitted surveys indicating they were interested in participating. Of those, 19 were given permission to proceed and have signed cooperative agreements, and 18

have undergone the preliminary system evaluations. Ten growers have made it all the way through the review and approval process, and we have reserved \$536,521 to fund their projects. Half of those projects have been completed, and we have sent invoices to the state for \$127,295 in reimbursement funds.

Here, however, is where things may

bog down. Farm Bureau and its local partners control each stage of the process up to this point. But the state has proved slow to review and respond to invoices submitted by grant recipients, sometimes taking months to actually pay them. We're doing our best to make sure applicants understand this before they sign a participation agreement, but the lag is still a concern that we will try to address.

### Evidence mounts of HLB's spread

The tally changes almost daily, but as of this writing, the California Department of Food and Agriculture had confirmed the presence of Huanglongbing disease in 81 citrus trees (as well as Asian citrus psyllid samples) scattered across 9 cities in three counties (Orange, Los Angeles and Riverside). The pace of new confirmations is increasing, and the HLB quarantine area in Southern California now encompasses hundreds of square miles, from Pasadena in the north to Santa Ana in the south, and from West Covina in the east to Long Beach on the west.

And this only hints at the true scale. The CDFA confirmations rely on conventional DNA testing of tree and psyllid samples collected as part of a statewide survey, and scientists have long known that it does not detect the presence of the disease-causing bacterium until the tree has been infected – and infectious – for months or even years.

Because of this long lag time, the actual spread of the epidemic far outpaces the ability to track it. This in turn means that the only approved regulatory response – removal of the infected tree, and mandatory spraying to kill ACP within 800 meters – occurs too late to contain the outbreak. The official HLB survey, in other words, is following in the epidemic's wake, not tracking its leading edge.

In recognition of this, CDFA's Science Advisory Panel recently developed a set of recommendations for improvements. The panel report, which was delivered to the Citrus Pest and Disease Prevention Committee at its July 12 meeting, is blunt about the ineffectiveness of the current HLB strategy.

The increasing number of plant and ACP samples that generate "inconclusive" DNA test results, the panel wrote, "indicate that the CLas bacterium (which causes HLB) has spread well beyond Los Angeles and Orange counties, and the current activities of testing and tree removal will not stop this spread."

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### What's Inside?

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# 'Bot' worsens as drought continues

By Jim Downer

*Botryosphaeria dothidea* and related species are the cause of canker diseases of many ornamental plants, as well as orchard trees such as avocado, citrus and apple. The continued drought and hot weather this summer continues to exacerbate diseases caused by "Bot" fungi, causing significant impact in landscapes and agriculture.

Plant pathogens cause disease, which results in characteristic damage symptoms. Nursery grown plants are especially vulnerable to this disease, since they must be healthy and without symptoms as they are prepared for sale. Since growers of ornamental plants often grow many species, there is always an opportunity for a pathogen to attack nursery stock. Tree crop growers are also affected by Bot diseases, as they kill fruit-bearing wood and decrease yields. Nurseries and tree crop growers in Ventura County are often adjacent to wild lands such as creeks, chaparral or hillsides that are covered with native vegetation, which may harbor cankered foliage that supplies inoculum to infect crops.

Even though a grower may have strict plant health programs, diseases find a way to infect. Nurseries growing woody plants often suffer with cankers caused by *Botryosphaeria* and affiliated asexual stages of *Botryosphaeria*, such as *Fusicoccum*, *Neofusicoccum* and *Dothiorella*. Bot fungi preferen-

tially infect drought-stressed plants. Drought stress from a missed irrigation, plugged emitter, or sudden onset of low humidity/high heat weather is enough to predispose plants to Bot diseases. These are canker fungi and they infect stems small and large.

Bot fungi infect either as conidia from the asexual stages of the fungus or as ascospores from the *Botryosphaeria* stages. These spores are usually produced in dead tissues on diseased plants. Spores are moved by insects, splashed in water, wind borne, or moved in brush, clippings or trimmings of diseased plants. We don't know if *Botryosphaeria* survives in mulch or in the processing that occurs in greenwaste processing centers, but these spores are often found in the natural mulch found on the ground. Ascospores and conidia germinate readily at 28-32 degrees C (82-90 degrees F), suggesting that weather conditions in California will sustain the pathogen during much of the spring through fall. Germinating spores can enter directly into stems through lenticels or through wounds made during pruning or other injuries.

Bot fungi cankers and stem lesions eventually girdle, resulting in foliage symptoms of yellowing to browning leaves and flagging or dead branches in shrubs and trees. Sometimes the tips of plants are affected, especially if plants are hedged or wounded repeatedly. Bot fungi build large amounts of inoculum in the dead and dying portions of affected plants. *Botryosphaeria dothidea* is the most commonly observed species but there are about 200 species worldwide affecting thousands of hosts. Native plants such as oak, ceanothus, mountain mahogany, and manzanita are commonly affected, especially following or during drought. Bot fungi also affect landscape and crop trees such as oak, alder, citrus, redwood, avocado, maple and apple.

Preventing drought stress with consistent, uniform irrigation helps to preclude infection by Bot fungi, but does not totally prevent it in very susceptible species. Rogueing out infested plant material or pruning out infected branches helps to reduce inoculum. On larger specimens, pruning out deadwood is essential to controlling the disease, as the fungus usually sporulates on deadwood. Fungicides are available for control of Bot fungi, but labeling must be checked before

application. Fludioxonil, carbendazim, fluazinam, tebuconazole, flusilazole, penconazole, procymidone, iprodione, myclobutanil, and pyraclostrobin were all effective in controlling *Botryosphaeria* disease of grape. Fungicides are best applied after pruning wounds are made, to protect exposed tissues from the disease.

Repeat, the best way to maintain healthy, Bot-free trees is proper irrigation.

— Jim Downer is a horticultural advisor for the University of California Cooperative Extension in Ventura. Contact him at [ajdowner@ucdavis.edu](mailto:ajdowner@ucdavis.edu).

## Notes from the CEO

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(Inconclusive results are those that indicate bacterial DNA is present in the sample, but at low levels that don't meet state and federal thresholds for regulatory action.)

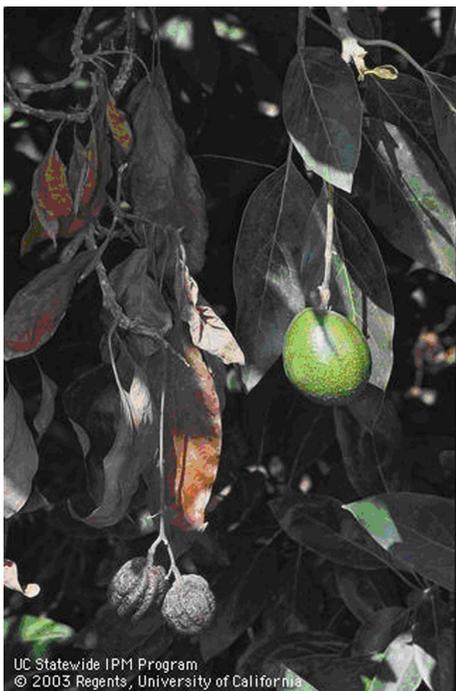
"Based on the pattern," the report goes on to say, "HLB is not just found in the HLB quarantine area, it has spread through much of Southern California — Los Angeles, San Bernardino, Riverside, Orange, Imperial and San Diego counties."

The scientists recommend that CDFG focus more attention on efforts to suppress ACP in the San Joaquin Valley, and redirect resources to that effort from activities of dubious value in Southern California. They recommend, for example, eliminating urban ACP buffer treatments around commercial groves in Los Angeles, Orange, San Bernardino and Riverside counties (with the exception of areas near the UC Riverside campus).

They cautiously recommend that CDFG consider continuing those treatments in Imperial and Ventura counties, where there have been relatively few cluster of "inconclusive" HLB test results and no regulatory confirmations, as long as nearby commercial growers are meeting the 90 percent threshold for participation in an area-wide management program. But they note, "The subject needs more detailed analysis and discussion."

They also recommend that the statewide industry adopt the strategy the Ventura County ACP-HLB Task Force is already developing: use of early detection technologies to identify suspect trees when there is still time to influence the epidemic spread, and voluntary grower removal of trees that generate "inconclusive" DNA test results but do not

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UC Statewide IPM Program  
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Photo: Bot on Avocado

## Notes from the CEO *Cont'd from page 2*

meet the regulatory standard for mandatory removal.

The science panel's report is available online at <http://bit.ly/C DFA-SAP>.

### County moving ahead on wildlife corridor policies

Acting at the direction of the Board of Supervisors, the Ventura County Planning Division is developing a set of General Plan policies and zoning standards intended to protect corridors of habitat linking large natural areas, such as the Santa Monica Mountains and Los Padres National Forest. The objectives are to minimize direct and indirect barriers to plant and wildlife movement, minimize vegetation loss and habitat fragmentation, and protect or enhance "choke points" where development has already narrowed wildlife corridors so much that they are barely functional.

Areas of particular concern are ridgelines and riparian corridors, which are heavily used by wildlife, as well as the approaches to bridges, culverts and underpasses, which allow safe movement across highways.

The public process kicked off June 8 with a meeting to solicit stakeholder input, and a second stakeholder meeting was held on Aug. 8. Farm Bureau is one of numerous organizations represented in the stakeholder group, along with other agricultural organizations, environmental groups, energy companies, and local, state and federal wildlife and park agencies.

Much of the discussion has focused on such issues as outdoor lighting and fencing, as well as removal of native vegetation – all topics of great significance to farmers and ranchers. County staff is attempting to develop a set of standards for projects that have the potential to degrade habitat connectivity, to ensure that such interference is minimized.

Most will apply to what are known as ministerial permits, which are required for such things as fences or walls more than 6 feet high, greenhouses smaller than 20,000 square feet, and accessory structures such as sheds and barns up to 2,000 square feet. Unlike discretionary permits, which require a higher level of review and are issued at the discretion of agency staff, a ministerial permit must be granted if the project complies with a checklist of standards incorporated into the zoning ordinance.

The discussions have generally been thoughtful and productive. Agricultural stakeholders, in particular, have been vocal in providing feedback to county staff and informing them about day-to-day practices on Ventura County farms and ranches – and clearly identifying which ideas for additional regulation will be effective, and which will be impractical or harmful to farming and ranching operations. And so far, our suggestions appear to be making a difference.

For example, an initial proposal to require all fencing within identified movement corridors to be "wildlife permeable" – which would preclude security fencing intended to keep people out of fields and orchards – was modified in response to our comments. County staff now proposes to exempt fences used for crop protection from the wildlife-permeability requirement. Similarly, standards for outdoor lighting would not apply to temporary agricultural activities occurring at night, such as harvesting or spraying.

There's still a long way to go. The standards for vegetation removal, in particular, will require close scrutiny to ensure they do not make it impossible to expand cropland and orchards, or to properly manage rangeland for livestock. There will likely be additional stakeholder meetings to dive more deeply into specific issues such as that.

The staff goal is to have everything wrapped up so it can submit the package of policies and standards to the Planning Commission by the end of this year, and to the Board of Supervisors next spring. We'll continue to work with county staff throughout that process to ensure it strikes an appropriate balance between the needs of wildlife and the needs of the agricultural community.

More information about the planning effort, including copies of the presentations staff gave at the two stakeholder meetings, is at <http://vcrma.org/planning/plans/Habitat-Connectivity-Wildlife-Movement-Corridors.html>.

— John Krist is chief executive officer of the Farm Bureau of Ventura County. Contact him at [john@farmbureauvc.com](mailto:john@farmbureauvc.com).

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**San Diego Safari Park** — Escondido. Adult (12+ yrs) \$45.00 (save \$7.00); Child (3 to 11 yrs) \$37.00 (save \$5.00). Includes Africa Tram, all shows and exhibits. *Valid thru 12/31/17.*

**San Diego Sea World** — Adult Single Day Ticket \$57 with 1 child FREE (SAVE \$90.98). Available for purchase and valid thru 10/31/2017. Each adult single-day ticket purchase includes one child (ages 3-9) single-day FREE ticket. *Adult & child visit valid thru 10/31/2017.*

**San Diego Zoo** — Adult (12+ yrs) \$45.00 (save \$7.00); Child (3 to 11 yrs) \$37.00 (save \$5.00). *Valid thru 12/31/17.*

**Six Flags Magic Mountain** — Valencia. General admission (3yrs+) \$49.95 (save \$30.04). *Valid thru 09/17/2017*

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# FARM BUREAU OF VENTURA COUNTY

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